

WHAT IS CLAIMED IS:

1 1. A method for casting a polyacrylamide gel in a plastic gel enclosure,
2 said method comprising

3 (a) forming an aqueous solution of a monomer mixture comprising
4 acrylamide, a crosslinking agent, and an oxygen scavenger which is a member
5 selected from the group consisting of sodium sulfite, sodium bisulfite, sodium
6 thiosulfate, sodium lignosulfate, ammonium bisulfite, hydroquinone,
7 diethylhydroxyethanol, diethylhydroxylamine, methylethylketoxime, ascorbic acid,
8 erythorbic acid, and sodium erythorbate; and

9 (b) polymerizing said monomer mixture in a plastic gel enclosure to form a
10 polyacrylamide gel.

1 2. A method in accordance with claim 1 in which said monomer mixture
2 further comprises a free radical initiator.

1 3. A method in accordance with claim 1 in which said oxygen scavenger
2 is a member selected from the group consisting of sodium sulfite, sodium bisulfite, sodium
3 thiosulfate, sodium lignosulfate, and ammonium bisulfite.

1 4. A method in accordance with claim 1 in which said oxygen scavenger
2 is a member selected from the group consisting of sodium sulfite and sodium bisulfite.

1 5. A method in accordance with claim 1 in which said oxygen scavenger
2 is sodium sulfite.

1 6. A method in accordance with claim 1 in which the concentration of
2 said oxygen scavenger in said aqueous solution is from about 1 mM to about 30 mM.

1 7. A method in accordance with claim 3 in which the concentration of
2 said oxygen scavenger in said aqueous solution is from about 1 mM to about 30 mM.

1 8. A method in accordance with claim 3 in which the concentration of
2 said oxygen scavenger in said aqueous solution is from about 3 mM to about 15 mM.

1 9. A method in accordance with claim 1 in which said plastic gel
2 enclosure is a member selected from the group consisting of polycarbonate, polystyrene,

3 styrene-acrylonitrile copolymer, polyethylene terephthalate, polyethylene terephthalate
4 glycolate, and poly(ethylene naphthalenedicarboxylate).

1 10. A method in accordance with claim 1 in which said monomer mixture
2 comprises acrylamide and N,N'-methylene-bisacrylamide in aqueous solution, the total of
3 said acrylamide and N,N'-methylene-bisacrylamide amounting to from about 5 g to about
4 30 g per milliliter of said aqueous solution.

1 11. A method in accordance with claim 1 in which said monomer mixture
2 comprises acrylamide and N,N'-methylene-bisacrylamide at a combined concentration of
3 from about 10 g to about 20 g per milliliter of said aqueous solution.

1 12. A method in accordance with claim 10 in which the weight ratio of
2 acrylamide to N,N'-methylene-bisacrylamide is from about 10:1 to about 100:1.

1 13. A method in accordance with claim 10 in which the weight ratio of
2 acrylamide to N,N'-methylene-bisacrylamide is from about 25:1 to about 50:1.